

**Notice of Allowability**

Application No.

10/671,612

Examiner

VAN T. PHAM

Applicant(s)

TANAKA, AKIHIRO

Art Unit

2627

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☐ This communication is responsive to \_\_\_\_.
2. ☒ The allowed claim(s) is/are 1-12.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some\* c) ☐ None of the:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☒ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_.
- (b) ☒ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date \_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date \_\_\_\_
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_

**WAYNE YOUNG**  
SUPERVISORY PATENT EXAMINER

***EXAMINER'S AMENDMENT***

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mark Thronson on April 121, 2006.

**IN FIGURE:**

Figure 1 has been labeled as -- Prior Art--.

***Cited References***

2. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The cited references relate to

- a. Optical pickup including a supporting member for movably supporting lens holder through a plurality of linear spring members (Wada US 6,904,607).
- b. An optical pickup actuator includes a lens holder having a objective lens and tracking and focusing coils (Suh US 2001/0026404).
- c. An optical pickup comprises an objective lens driving device including a movable section provided with an objective lens, a focusing coils, and tacking coils ( Kawano US 2001/0038581).
- d. Lens actuator and optical disk recording and reading apparatus using the same (Tanaka US 6,339,511).

*Reasons for allowance*

2. The following is an examiner's statement of reasons for allowance:

Claims 1-12 are allowed over the prior art of record because:

The admitted art and cited art disclose an optical disk apparatus to record and/or reproduce information to and/or from an optical disk by a light beam, comprising: a light source to generate the light beam (inherently); an objective lens to converge the light beam from the light source on the optical disk (see the admitted art Fig. 1); a lens actuator to move the objective lens (see the admitted art Fig. 1), said lens actuator comprising: a lens holder to support the objective lens (see Fig. 1, element 2), said lens holder having a pair of first side surfaces in a tracking direction and a pair of second side surfaces in a tangential direction (see the admitted art Fig. 1 and [0006]); wire springs, provided on the first side surfaces of the lens holder, to support the lens holder (see the admitted art Fig. 1, element 4); a pair of fixed magnets disposed to confront the second side surfaces of the lens holder, each of the magnets having four regions which are defined by mutually perpendicular first and second magnetic boundary lines and have approximately the same area and are magnetic, such that magnetic directions of the four regions are perpendicular to a plane including a focusing direction and the tracking direction but are in opposite directions between two mutually adjacent regions, said first magnetic boundary line extending in the focusing direction, said second magnetic boundary line extending in the tracking direction (see the admitted art Fig. 1, element 10); a pair of yokes having a predetermined thickness and having the corresponding magnets fixed thereon (see the admitted art Fig. 1, element 9); first coils disposed between each second surface of the lens holder and each magnet and arranged on both sides of the first magnetic boundary line along the second magnetic

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boundary line of each magnet, said first coils being arranged symmetrically with respect to an optical axis of the objective lens; and second coils disposed between each second surface of the lens holder and each magnet and arranged on both sides of the second magnetic boundary line along the first magnetic boundary line of each magnet, said second coils being arranged symmetrically with respect to the optical axis of the objective lens (see the admitted art Fig. 1, elements 5-6).

None of the cited references discloses or suggests a power supply section to supply power to the first and second coils so that the first coils generate thrusts in the focusing direction and the second coils generate thrusts in the tracking direction, said power supply section independently supplying the power a first pair of diagonally arranged first coils and a second pair of diagonally arranged first coils, so that the first pair of first coils generate thrusts in the same direction and the second pair of first coils generate thrusts in mutually opposite directions and a radial tilt coil disposed between the second surface of the lens holder and the magnet, and having a center located on an outer side of corresponding centers of the four regions of the magnet in the focusing direction; and a power supply section to supply power to the tracking coils, the focusing coil and the radial tilt coil so that the tracking coils generate thrusts in the tracking direction and the focusing coil and the radial tilt coil generate thrusts in the focusing direction, said power supply section independently supplying the power to the focusing coil and the radial tilt coil.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."


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3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to VAN T. PHAM whose telephone number is 571-272-7590. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wayne Young can be reached on 571-272-7582. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

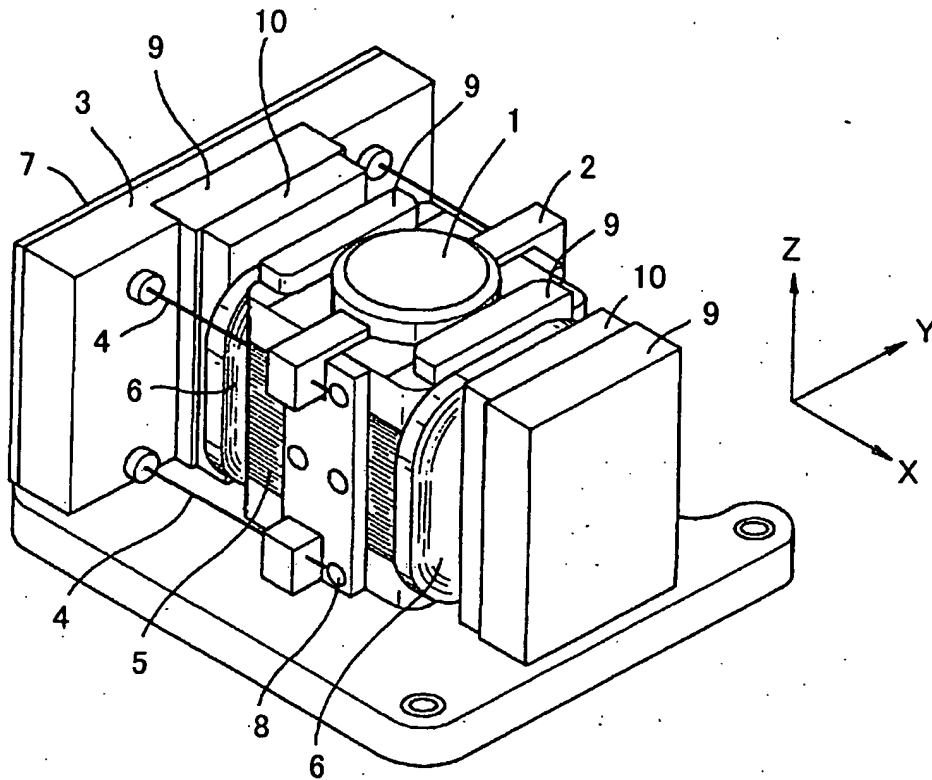
VP



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1701A

FIG.1



Prior Art.